a computer to save said state information for one or more other range of Uniform Resource Locators.

50. (Twice Amended) At least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of electronic shopping, said method comprising:

selecting, by a purchaser, a plurality of items to be purchased electronically from a plurality of vendors, said plurality of vendors comprising a plurality of non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another; and

purchasing said plurality of items on-line via a single check out, wherein an indication of said plurality of items to be purchased need not be moved, by said purchaser, between said plurality of vendors.

Remarks

Entry of the claim amendments, reconsideration of the application, and allowance of all pending claims are respectfully requested. Claims 1-50 are pending.

In accordance with 37 C.F.R. 1.121(c), a marked-up version of the amended claims is provided on one or more

pages separate from the amendment. These pages are appended
to the end of the response.

Applicants have amended certain independent claims to
clarify that the "non-cooperating" first domain and second
domain comprise non-cooperating domains having no knowledge
of one another and wherein the non-cooperating domains do
not directly communicate state information between one
another. This amendment is made in a bona fide attempt to
further prosecution of the application. Support for the
amendment can be found at page 11, lines 15-21 of the
application as filed.

Applicants' claimed invention has been carefully
reviewed in light of the final Office Action in which claims
1-4, 6-7, 22-24, 26-27 and 42-46 were rejected under 35
U.S.C. § 102(a) as being anticipated by Rosenberg (WO
98/09447); claims 18-19, 38-39 and 50 were rejected under 35
U.S.C. § 102(a) as being anticipated by Giacoppo ("Forum:
comp.lang.java.announce, Thread: ad/soft/CheckOut - Shopping
cart applet", http://www.deja.com, 8/8/97); claims 5, 8, 10,
11-17, 25, 28, 30-37 and 47-49 were rejected under 35 U.S.C.
§ 103(a) as being unpatentable over Rosenberg in view of
Davis et al. (U.S. Patent No. 5,796,952); claims 9 and 29
were rejected under 35 U.S.C. 103(a) as being unpatentable
over Rosenberg in view of Susuki et al. (U.S. Patent No.
5,946,665); claims 20 and 40 were rejected under 35 U.S.C.
103(a) as being unpatentable over Giacoppo in view of Krick
("A cookie for your thoughts: cookies help Webmasters
harness user habits. (Internet/Web/Online Service

Information) (Tutorial)", Computer Shopper, v17, n7, p610(1)); and claims 21 and 41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Giacoppo in view of Davis et al. For the reasons stated below, applicants respectfully traverse these rejections to any extent deemed applicable to the claims present herewith.

In accordance with an aspect of the present invention, a cross-domain sharing capability is provided in which state information is shared across **non-cooperating domains. That is, the domains have no knowledge of one another <u>and</u> do not directly communicate a proprietary protocol between one another.** This language, which is now expressly recited in many of the independent claims presented herewith, is in sharp contrast to the teachings of Rosenberg.

In Rosenberg, state information is shared across cooperating domains, and not across non-cooperating domains, as in applicants' invention. For instance, Rosenberg explicitly states on page 4, lines 30-31: "In particular, the technique of the invention allows all <u>cooperating</u> servers to share information via a database (emphasis added)." Further, on page 7, lines 1-2, Rosenberg explicitly states: "The present invention operates by having a group of related server computers, say server computers 24A-24N, <u>cooperatively</u> observe a common protocol... (emphasis added)." Further, on page 7, lines 7-9, it is stated: "That is, in accordance with the invention, persistent client-side state (cookie) security features are avoided to allow <u>cooperating</u> server computers with distinct

domain names to process state information associated with a browser (emphasis added)." Thus, it is clear from the reference that although the servers have distinct domain names, they are cooperating servers. **They are cooperating because they communicate a proprietary protocol between one another.** The proprietary protocol consists of generating, distributing, understanding and using, with the shared database, the unique identifier value.

Even in the Final Office Action, it refers to the server as cooperating (see p. 3, last line of Final Office Action). It states: "[C]ooperating server here refers to web site servers observing the common protocol." The final Office Action further states that "it is inherently required that servers use the common protocol ... in order to share information." Thus, even the Office Action admits that the servers in Rosenberg cooperate through the observance of a common protocol and the sharing of a database.

Applicants' invention is distinct because no such cooperation or common and proprietary protocol is needed to share state information. This is what makes applicants' invention different. Thus, while in the past, cooperation was necessary, as the Office Action contends, applicants' invention changes that notion. Instead of cooperation among servers to share state information, applicants use, for example, an intermediary application between the client and the various servers, which is used to share the state information between the servers. This is shown clearly in FIG. 7a and FIG. 7b of applicants' specification where the

userid and password used to logon the www.ibm.com server
(step 730 of FIG. 7b) is shared with the private.lotus.com
server (step 750 of FIG. 7b) without either server knowing
that the sharing is taking place. When two servers use
different protocols, the intermediary application converts
the protocol of one server to the protocol of the second
server before sharing the information. <u>This allows for the
sharing of information between two servers simultaneously
using different protocols</u>. Thus, in this aspect of
applicants' claimed invention, the domains need not be and
are not cooperating or using a common and proprietary
protocol.

An advantage of the present invention can clearly be
seen when considering the required steps to implement the
two inventions. Rosenberg requires the servers to interpret
the same cookies and write to a common database, therefore
code must be installed at all of the servers to implement
this functionality. For this aspect of the present
invention, the servers remain unchanged. Rather, an
intermediary application is installed between the client and
the servers. All of the functionality required to share the
state information is contained in the intermediary
application.

In the Advisory Action dated December 15, 2000, it is
stated that Rosenberg teaches that a unique identification
value is generated at the first domain (server) and then
conveyed to each domain (server) that the client browser
visits (page 7, lines 24-33 of Rosenberg). Clearly,

Rosenberg fails to meet applicants' characterization of "non-cooperating domains" by this teaching since the domains will have express knowledge of each other through the unique identification value. Again, applicants define non-cooperating domains as <u>both</u> domains having (1) no knowledge of one another and (2) domains which do not directly communicate state information between one another. The express teachings of Rosenberg means that the domains described therein do not meet this characterization of applicants' claimed invention.

Based on the foregoing, applicants respectfully submit that independent claim 1 is not anticipated by Rosenberg. Further, independent claims 22 and 42 are patentable for the same reasons as independent claim 1. Additionally, the claims dependent from those independent claims are also patentable for the same reasons as their respective independent claim, as well as for their own additional features. Thus, applicants respectfully request an indication of allowability of claims 1-9, 22-29, and 42-46.

In a further aspect of applicants' invention, an intermediary application is used to provide state information to a client and/or a server. This intermediary application is coupled to the client and server, such that transmissions exchanged between the client and the server go through the intermediary application.

For example, a request being sent from a client application to a server application is received by an

intermediary application. The intermediary application upon receiving the request, adds state information to the request, and then, forwards the request with the state information to the server application. Then, as a further example, the server application responds to the request and that response is received by the intermediary application. The intermediary application then forwards the response on to the client application. Thus, in this aspect of applicants' invention, the intermediary application acts as a middleman between the client and server.

One aspect of applicants' invention is recited in independent claim 10. Independent claim 10 recites a method of providing state information. The method includes, for instance, determining state information to be provided to at least one of a client application (hereinafter client) and a server application (hereinafter server); and using an intermediary application, that is disposed to receive transmissions exchanged between the client and the server, to provide the state information to the at least one of the client and the server. Thus, in applicants' claimed invention, an intermediary application is used to provide state information and that intermediary application is disposed to receive transmissions exchanged between the client and the server. This is in sharp contrast to the teachings of Rosenberg and Davis et al.

In particular, as explicitly stated in the Office Action, Rosenberg fails to disclose sharing of information using an intermediary application. Further, Davis et al.

does not overcome this deficiency of Rosenberg.
Specifically, Davis et al. describes a method and apparatus
for tracking client interaction with a network resource and
creating client profiles and a resource database. In order
to perform the tracking, a tracking program is used, which
is downloaded from a server to the client. That is, "[t]he
tracking program is downloaded from a server and runs on the
client to monitor various indicia, such as elapsed time,
mouse events, keyboard events, and the like...." (Column 4,
lines 45-48). In particular, the tracking program tracks
user interactions with a file, such as a web page, and
provides the information to the server. The tracking
program is not disposed between a client and a server to
receive transmissions exchanged between the client and the
server.

In response to a previous Office Action, applicants
submitted that while the tracking program provides
information to the server, the tracking program is not an
intermediary application handling communications between a
client and a server. That is, the tracking program of Davis
et al. is not in the communication path of the server and
client, and does not receive transmissions exchanged between
client and server programs.

In response to this argument, the final Office Action
interprets Figure 5 as disclosing Server A as the client,
Client as the intermediary application, and Server B as the
server. Applicants respectfully submit that this is not

what is shown in Figure 5, and any interpretation as such is
a misinterpretation of Davis et al.

> In describing the figure, Davis et al. state that:
> Thus, <u>the client first issues a TCP/IP request</u>
> (S501). After a handshaking period, a first
> Server A begins to send an HTML formatted document
> which contains an embedded URL referencing the
> tracking program. <u>The client additionally issues
> a TCP/IP request to a second Server B</u> referenced
> by the embedded URL in order to obtain the
> tracking program (S502B)... When the tracking
> program has been obtained, the client process
> (i.e. the Web browser) saves the tracking program
> to RAM (S503B)... When the user performs another
> predetermined action (S505), the tracking program
> calculates the amount of time between the
> predetermined user actions, and sends this
> information, along with other available client
> information, to the server.

Col. 13, lines 24-26 (emphasis added).

This discussion clearly states that the Figure shows
the client as initiating communications with both Server A
and Server B. Server A does not communicate with Server B
through client as maintained in the final Office Action.
Additionally, the discussion of the tracking program reveals
that it does not act as an intermediary between client and
either of the Servers, but rather initiates its own,
independent communications with one of the servers, as
previously submitted by applicants. Thus, applicants'
claimed intermediary application is very different from the
tracking program of Davis et al.

Applicants note that the Advisory Action dated December 15, 2000 does not discuss this aspect of their claimed invention.

Since the tracking program of Davis et al. is not disposed to receive transmissions exchanged between the client and the server, but instead simply monitors the user's interaction (e.g., keyboard presses, mouse clicks) with the client, Davis et al. does not teach or suggest applicants' claimed invention. Further, since Rosenberg and Davis et al. fail to describe an intermediary application at all, the combination of Rosenberg and Davis et al. fails to teach or suggest applicants' claimed invention. Based on the foregoing, applicants respectfully submit that independent claim 10, as well as independent claims 30 and 47, are patentable over the combination of Rosenberg and Davis et al. Additionally, the claims dependent from these independent claims are also patentable over the combination. Therefore, applicants respectfully request an indication of allowability of claims 10-17, 30-37, and 47-49.

A further aspect of applicants' claimed invention is related to a virtual on-line shopping mall. A purchaser selects items from different vendors and those items are added to a single shopping cart, such that the purchaser only has to check out once. However, the purchaser is relieved from some of the actions that would typically take place in such a purchase. For example, the purchaser need not provide to a vendor the items purchased at another vendor. Instead, this task is taken care of by, for

example, an intermediary application. For instance, the
intermediary application (e.g., a proxy server) is in charge
of placing the selected items in a shopping cart and thus,
relieves the purchaser of the burden of explicitly
forwarding the list of items to be purchased between the
different vendors.

In one example, applicants' claim 18 states a method of
electronic shopping, which includes, for instance,
selecting, by a purchaser, a plurality of items to be
purchased electronically from a plurality of vendors,
wherein the plurality of vendors are represented by a
plurality of web sites; and purchasing the plurality of
items on-line via a single checkout, wherein an indication
of the items to be purchased need not be moved, by the
purchaser, between the plurality of vendors. Thus, in
applicants' claimed invention, the purchasers are relieved
from the task of explicitly forwarding a list of the items
to be purchased between the vendors. Instead, this task is
handled by another entity, such as an intermediary
application.

In addition, claim 18 is amended herein to recite that
the plurality of vendors comprise a plurality of non-
cooperating domains, wherein the non-cooperating domains
have no knowledge of one another and wherein the non-
cooperating domains do not directly communicate state
information between one another. Thus, applicants believe
that this claim is allowable for the same reasons stated
initially herein with respect to claim 1.

In contrast to applicants' claimed invention, the Giacoppo reference specifically teaches that the shoppers need to take their orders to other checkout stores if wanting to purchase multiple items from different stores at one checkout. Thus, the shoppers are straddled with the task of providing this list from one vendor to the other. In one aspect of applicants' invention, the purchaser is relieved of this task, and instead the intermediary application, moves the list between the vendors. Further, a careful reading of Giacoppo fails to uncover any discussion that the plurality of vendors comprise a plurality of non-cooperating domains as now expressly recited by applicants. Again, non-cooperating domains are recited to comprise domains having no knowledge of one another and wherein the non-cooperating domains do not directly communicate state information between one another.

Applicants respectfully submit that there is no teaching in the Giacoppo reference of anything other than specifically requiring the users to explicitly move their order list from store to store. It is specifically stated in Giacoppo:

> Vendors can also create a networked mall where shoppers can take their Order List to other CheckOut! stores on the same server or across the Internet to other servers running CheckOut! while keeping their Order List intact. (emphasis added)

This language specifically states that the order lists need to be brought from store to store by the shoppers. In
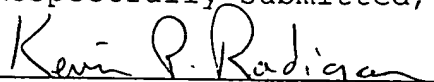
contrast, applicants' invention does not require such explicit action by the users; and to state in the Office Action that it is inherent to use an intermediary application, as applicants have taught, is an improper hindsight reconstruction based on applicants' invention.

Since Giacoppo fails to describe applicants' claimed feature of purchasing a plurality of items on-line via single checkout, wherein an indication of the plurality of items to be purchased need not be moved by the purchaser between the plurality of vendors, applicants respectfully submit that Giacoppo does not teach applicants' claimed invention. Further, there is no teaching or suggestion of how CheckOut! (described in the reference) would relieve the shoppers of this task. Thus, applicants respectfully submit that their invention is patentable over the Giacoppo reference and request an indication of allowability of claims 18-21, 38-41 and 50.

In view of the above, allowance of all claims presented herewith is respectfully requested. If, however, any issue remains unresolved, the Examiner is urged to telephone applicants' undersigned representative to further discuss the application.

Should the Examiner wish to discuss this case with applicants' attorney, please contact applicants' attorney at the below listed number.

Respectfully submitted,

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Marked-Up Version of Claims

1.   (Amended) A method of sharing state information, said method comprising:

determining state information to be shared between a first domain and a second domain; and

sharing said state information between said first domain and said second domain, wherein said first domain and said second domain are non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another.

18.   (Twice Amended) A method of electronic shopping, said method comprising:

selecting, by a purchaser, a plurality of items to be purchased electronically from a plurality of vendors, said plurality of vendors comprising a plurality of non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another [being represented by a plurality of web sites]; and

purchasing said plurality of items on-line via a
single check out, wherein an indication of said
plurality of items to be purchased need not be moved,
by said purchaser, between said plurality of vendors.

19. (Amended) The method of claim 18, further
comprising placing said selected plurality of items in a
shared shopping cart, said shared shopping cart being shared
between said plurality of <u>vendors</u> [web sites].

22. (Amended) A system of sharing state information,
said system comprising:

means for determining state information to be
shared between a first domain and a second domain; and

means for sharing said state information between
said first domain and said second domain, wherein said
first domain and said second domain are non-cooperating
<u>domains, said non-cooperating domains having no
knowledge of one another and wherein said non-
cooperating domains do not directly communicate state
information between one another</u>.

38. (Twice Amended) A system of electronic shopping,
said system comprising:

means for selecting, by a purchaser, a plurality
of items to be purchased electronically from a
plurality of vendors, said plurality of vendors

comprising a plurality of non-cooperating domains, said
non-cooperating domains having no knowledge of one
another and wherein said non-cooperating domains do not
directly communicate state information between one
another [being represented by a plurality of web
sites]; and

means for purchasing said plurality of items on-
line via a single check out, wherein an indication of
said plurality of items to be purchased need not be
moved, by said purchaser, between said plurality of
vendors.

39. (Amended) The system of claim 38, further
comprising a shared shopping cart adapted to receive said
selected plurality of items, said shared shopping cart being
shared between said plurality of vendors [web sites].

42. (Amended) An article of manufacture, comprising:

at least one computer useable medium having
computer readable program code means embodied therein
for causing the sharing of state information, the
computer readable program code means in said article of
manufacture comprising:

computer readable program code means for
causing a computer to determine state information
to be shared between a first domain and a second
domain; and

computer readable program code means for causing a computer to share said state information between said first domain and said second domain, wherein said first domain and said second domain are non-cooperating <u>domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another</u>.

50. (Twice Amended) At least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of electronic shopping, said method comprising:

selecting, by a purchaser, a plurality of items to be purchased electronically from a plurality of vendors, said plurality of vendors <u>comprising a plurality of non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another</u> [being represented by a plurality of web sites]; and

purchasing said plurality of items on-line via a single check out, wherein an indication of said plurality of items to be purchased need not be moved, by said purchaser, between said plurality of vendors.